



# The African Organization for Research and Training in Cancer: historical perspective

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## ABSTRACT

The African Organization for Research and Training in Cancer (AORTIC) is a bilingual (English and French) nonprofit organization dedicated to the promotion of cancer control and palliation in Africa. Its mission in respect to cancer control in Africa includes

- support of research and training;
- provision of relevant and accurate information on the prevention, early diagnosis, treatment, and palliation of cancer;
- promotion of public awareness about cancer and reduction of the stigma associated with it.

In seeking to achieve its goal of cancer control in Africa, AORTIC strives to unite the continent and to make a positive impact throughout the region by collaboration with health ministries and global cancer organizations. The organization's key objectives are to further research relating to cancers prevalent in Africa, to support training programs in oncology for health care workers, to deal with the challenges of creating cancer control and prevention programs, and to raise public awareness of cancer in Africa. It also plans to organize symposia, workshops, meetings, and conferences that support its mission.

Founded in September 1982, AORTIC was active only between 1983 (when its inaugural conference was held in the City of Lome, Togo, West Africa) and the late 1980s. The organization subsequently became inactive and moribund. In 2000, a group of expatriate African physicians and scientists joined in an effort with their non-African friends and colleagues to reactivate the dormant organization. Since its reactivation, AORTIC has succeeded in putting cancer on the public health agenda in many African countries by highlighting Africa's urgent need for cancer control and by holding meetings every two years in various African cities. National and international cancer control organizations

worldwide have recognized the challenges facing Africa and have joined in AORTIC's mission.

## KEY WORDS

Africa, international, cancer, health care, research, training, developing world

## 1. BACKGROUND

Cancer care has customarily rated low among African health care priorities because of the prevalence of potentially preventable diseases such as malaria, tuberculosis, hepatitis, maternal deaths in childbirth, and high rates of infant mortality resulting from gastroenteritis and other childhood ailments—as well as, more recently, the pandemic of infection with HIV and associated AIDS. Furthermore, pervasive poverty on the continent makes access to modern cancer care difficult.

The myth of cancer being a disease of advanced societies has been overwhelmingly prevalent. However, with efforts to control communicable diseases becoming more effective, the burden of cancer in the developing world is increasingly being realized. Cancer, like other non-communicable diseases, is expected soon to be as prevalent in developing countries as in the developed world. The reasons for that situation are many, including a growing population of aging individuals and changes in lifestyle toward something more akin to that in the Western world<sup>1</sup>. According to a World Health Organization (WHO) report<sup>1</sup>, cancer deaths in 2008 were estimated to be 7 million worldwide. Unfortunately, that number is increasing and about 13–17 million people are expected to die of cancer annually by 2030. Most of those deaths will occur in people living in the developing world, including more than 1 million people living in sub-Saharan Africa.

Despite the scarcity of data about exact incidence rates and mortality statistics in African countries (because of limited population-based

cancer registries) and the absence of comprehensive death registration, it is estimated that about 62% of older adults in Africa die from non-communicable diseases, with about 1 in 5 deaths being attributable to cancer<sup>2</sup>. An estimated 530,000 new cases of cancer occurred in sub-Saharan Africa in 2002 alone<sup>3,4</sup>, and although the lifetime risk of developing a cancer in women is about 10%, which is only about one third lower than the risk in developed countries, the lifetime risk of a woman dying from cancer in sub-Saharan Africa is almost double that in developed countries<sup>2</sup>.

Cancer in Africans is usually characterized by a young age of onset and an advanced stage at presentation, thereby resulting in poor prognosis. Socioeconomic factors, limited access to health care, and a dearth of trained health care providers contribute to the grave outcomes, even for diseases that are known to be preventable or curable. And yet, there is not much evidence at this time that African countries are prepared to address this growing cancer burden. The lack of clinical and basic research and the lack of awareness on the part of national policymakers about the inevitable devastating impact of cancer on the continental economy are reflected in the absence of national and continental policies for controlling major public health problems such as cancer. A similar lack of organization affects the education systems and training facilities for cancer in nearly all African countries.

Cancer care and cancer research suffer in Africa because of socioeconomic challenges such as depletion of health care manpower, exodus of scarce professional resources (“brain flight” and “brain drain”), and inundation of reduced national and continental staffs by the overwhelming health burden. The African Organization for Research and Training in Cancer (AORTIC) hopes that it can potentially fill the vacuum in cancer research and training in Africa through long-range goals: specifically, defined research objectives, epidemiology studies, and a continuing training mechanism for physicians, nurses, other health-related professionals, data managers, and laboratory scientists.

## 2. AORTIC MISSION AND OBJECTIVES

The objectives of AORTIC are

- to provide coherent advice and counsel, and to coordinate research planning that relates to prevention, early detection, and cure of cancer.
- to support the management and funding of training programs in oncology with member institutions and elsewhere.
- to organize symposia, workshops, meetings, and conferences in keeping with its objectives.
- to assist in the formation of cancer research programs that are relevant in Africa.

- to facilitate international collaboration in cancer research.
- to arrange or sponsor periodic lectures by distinguished scholars in oncology.
- to collaborate with existing organizations interested in neoplastic diseases and to facilitate the implementation of relevant and appropriate research on cancer.
- to establish or assist in the setting up of journals and publication of monographs and books in oncology for the dissemination of research work on cancer in Africa.
- to provide scholarships and grants to facilitate objectives.
- to provide technical advice to WHO, the African Union, and other governments in Africa on cancer-related issues.

As it seeks to become Africa’s preeminent cancer control organization, AORTIC’s mission is to facilitate research and training; to provide relevant and accurate information on prevention, early diagnosis, treatment, and disease palliation; and to increase public awareness of cancer, while reducing its associated stigma throughout Africa.

## 3. AORTIC STRATEGIC PLAN

In addition to its vision and mission, AORTIC has established a strategic plan for advocacy, training, and research on cancer in Africa. The Strategic Plan of Action (2008–2013) serves as a framework that the organization will use to direct its efforts toward reducing the burden of cancer in Africa. The goal of the plan is to lower the increasing incidence and burden of cancer in Africa by promoting and implementing cancer control efforts through research and training in cancer. The plan of action encourages, supports, integrates, and facilitates evidence-based interventions and innovative projects and initiatives in all areas of cancer control. The organization will carry out its strategic plan in collaboration with global health partners: international agencies and organizations, nongovernmental organizations, governments, institutions, foundations, pharmaceutical companies, and other stakeholders at the local, regional, and national levels who are dedicated to the control of cancer in Africa.

## 4. AORTIC HISTORY

Founded during the 13th International Cancer Congress held in Seattle, Washington, U.S.A., September 1982, AORTIC was as the product of a lunch break discussion of the record of excellence in collaborative research, treatment, and education in cancer in the 1950s and the 1960s at the University of Ibadan (Nigeria) and Makerere University (Uganda). During those decades, those institutions had been centers of attraction for

international cancer researchers. It was about this time that the unique childhood cancer of African children that later became known as Burkitt lymphoma was recognized. By the late 1970s and early 1980s, those achievements had become a thing of the past.

It was the joint desire to bring back the achievements of those “golden years” of Africa-based excellence in cancer work that resulted in the founding of AORTIC. To that end, a provisional committee consisting of the four participants in that lunch break discussion was formed: Dr. Victor Anomah Ngu of the Republic of Cameroon was to serve as Chair, Dr. Toriola F. Solanke of Nigeria, as Chair of the Organizing Committee, Dr. Christopher K.O. Williams of Nigeria as Secretary-General, and Dr. James F. Holland of the United States as Scientific Advisor. The committee was to identify and contact established African doctors and scientists interested in neoplastic diseases and to raise funds for a meeting in Africa to organize an inaugural meeting of the organization in an African country.

The inaugural meeting took place in Lome, Republic of Togo, July 22–23, 1983. Twenty-four doctors from a broad group of countries—Benin, Cameroon, Congo, Ivory Coast, Kenya, Liberia, Malawi, Mali, Nigeria, Senegal, Sweden, the United States, and Upper Volta—attended. Dr. Jan Stjernsward, chief of the Cancer Unit at WHO in Geneva, Switzerland, represented the headquarters of the Organization, and Dr. Charles L.M. Olweny of Uganda and Dr. Papa Toure of Senegal represented the regional WHO headquarters in Brazzaville, Congo.

The second AORTIC scientific meeting was held in Brazzaville, Congo, November 1985, attracting 61 physicians and scientists from various African countries. A third AORTIC scientific meeting in Kinshasa, Zaire (now Democratic Republic of the Congo), took place in October 1989. About 80 abstracts were published, and 70 talks were presented in English or French. Participants came from 28 countries, including all parts of Africa, the United States, Canada, Sweden, and France.

Some of the outcomes of these meetings were

- a multicentre randomized study of the treatment of primary liver cancer in five African countries, comparing doxorubicin and epirubicin (sponsored by Farmitalia, Milan, Italy). The results were presented at the AORTIC Scientific Session of the International Congress on Neo-Adjuvant Chemotherapy in 1991 in Paris, France.
- a study focused on quality of life in patients with hepatocellular carcinoma.
- implementation of hepatitis B immunization programs in various African countries (in collaboration with WHO and the International Task Force on hepatitis B immunization).
- a study on the early detection of carcinoma of the cervix in Zimbabwe.

- a study of nasopharyngeal carcinoma comparing therapies (epirubicin vs. radiotherapy) in Kenya, Tanzania, and Zimbabwe.
- a study of AIDS-related Kaposi sarcoma (radiotherapy versus chemotherapy).

After 1989, no AORTIC congresses were scheduled, and the organization became inactive for a variety of reasons. Most especially, the geopolitical challenges that were pervasive on the continent led to an exodus from Africa of the leading members, including those who had contributed significantly to the vigorous intellectual exchanges that led to the achievements of AORTIC's first decade.

A number of events that took place in the mid-1990s—including intra-Africa events such as the end of apartheid in South Africa and the end of military dictatorships in West Africa, especially in Nigeria; and other extra-Africa events, such as the emergence of the World Wide Web and the dawning of the “communication highway”—led to renewed thinking about reactivating AORTIC. It was felt that the organization would have a greater chance of achieving its objectives in the new geopolitical milieu of Africa and the emerging new world of Internet-based communication.

Dr. Christopher Williams, the founding Secretary-General of AORTIC, who had meanwhile returned to Canada where he had trained before moving to Africa in the late 1970s, decided to reactive his leadership role. He convened a meeting of interested participants attending the 2000 annual meeting of the American Association for Cancer Research in San Francisco, California—most of them African expatriate cancer scientists and physicians, together with non-African participants who were interested in cancer control in Africa. The meeting resulted in the reactivation of AORTIC.

The meeting attracted 26 attendees. The reactivated organization was named AORTIC International. Five of the expatriate African participants were selected to form an International Steering Committee, with a view to representing five regions of Africa: West, East, North, Southern, and Central. However, most of the participants were of West African descent; none were of East or Southern African descent. Christopher K.O. Williams MD is a Canada-based medical oncologist of Nigerian descent (coordinator); J. Abiodun Elegbede PhD is a Nevada-based biochemist of Nigerian descent; Oscar Kashala MD is a Boston-based pharmaceutical cell biologist and pioneer AIDS researcher of Congolese descent; Samuel E. Adunyah PhD is a Tennessee-based biochemist and educationist of Ghanaian descent; and Sulma Mohammed DVM PhD is an Indiana-based cancer biologist of Sudanese descent. This International Steering Committee was charged with organizing a meeting of AORTIC in Africa, drafting a constitution, and obtaining funds

to support the organization and the meetings. A plan to hold an AORTIC Congress in 2002 was deferred to 2003 because of organizational problems.

The Fourth AORTIC Congress—Meeting the Challenges of the 21st Century—was held in Accra, Ghana, October 2003, co-chaired by Dr. Abiodun Elegbede and Dr. Carrie Hunter. Three hundred physicians, scientists, and nurses from 17 African countries, Europe, and North America attended. A recurrent concern of the Congress was the lack of trained oncology staff in Africa at all levels, from doctors, nurses, scientists, and technicians to administrators. Cervical cancer, one of the most preventable and common cancers among African women, was the subject of several education sessions. One of the important outcomes of the conference was the election of an Africa-based leadership for AORTIC: Seth Ayettey PhD (Ghana), President; Lynette Denny, MD (South Africa), Secretary-Treasurer; and Vice Presidents from each of the five African regions—Ahmed Elzawawy MD (Egypt, for North Africa); Henry Wabinga MD (Uganda, for East Africa); Paul Ndom MD (Cameroon, for Central Africa); Sine Bayo MD (Mali, for West Africa); and Petra Fordelmann RN (South Africa) and also Nursing Representative. Also included in the AORTIC Council were members of AORTIC International: James F. Holland MD (United States); C.K.O. Williams MD (Canada); Sulma Mohammed DVM PhD (United States); Carrie Hunter MD (United States); and Barrie Adedeji CPA (United States). An AORTIC office was subsequently opened in 2005 in Cape Town, South Africa, the growth of which is a testimonial of the great commitment, devotion, and energy of Dr. Lynette Denny and her assistant Ms. Belmira Rodrigues.

In September 2004, during an AORTIC Council Meeting in Cairo, Dr. Ayettey asked to step aside from the presidency for personal reasons. Dr. Paul Ndom was elected by the vice-presidents, according to the nascent constitution of AORTIC, to serve as president.

The Fifth International Conference, held in Dakar, Senegal, November 2005, was titled Cancer in Africa: Challenges and Opportunities, and the Sixth International Congress, held in Cape Town, South Africa, October 2007, was titled Cancer in Africa: A Call to Action. Dr. Twalib Ngoma (Tanzania) was elected President at the latter conference. The Seventh Congress, held in Dar es Salaam, Tanzania, November 2009, was titled Cancer in Africa: The New Reality. Dr. Serigne Gueye (Senegal) was elected President at that meeting.

The most recent AORTIC international conference, the eighth, held in Cairo, Egypt, from November 30 to December 2, 2011, was titled Entering the 21st Century for Cancer Control in Africa. The conference attracted 300 delegates—most coming from 32 of the 54 countries in Africa. The next AORTIC

conference will be held in Durban, South Africa, in 2013 under the direction of AORTIC President Isaac Adewole MD (Nigeria).

The structure of AORTIC conferences has progressively evolved. Most recently, they have consisted of lectures by distinguished speakers, workshops, proffered papers, posters, and cultural events. Most scientific sessions focus on cancers of importance in Africa: breast, prostate, and cervical cancers; HIV/AIDS and associated malignancies; tobacco control; palliation; and advocacy. The number of participants has consistently increased, as illustrated in Figure 1, and still includes physicians, scientists, and nurses from 34 of the 54 African countries (Table 1). Other attendees come from the United States, the United Kingdom, Canada, India, Brazil, Europe, and Qatar. Typically, the conferences support the attendance of more than 100 African participants.

## 5. SUMMARY

By promoting education, research, and oncology training for African health care professionals, AORTIC aims to control cancer in Africa and, through advocacy, to put cancer firmly on the African health agenda. One of the ways AORTIC is aiming to make a difference is through multidisciplinary cancer conferences in which African and non-African health professionals meet. Those conferences have resulted in the implementation of many initiatives. Programs in early diagnosis, collaborative training, palliative care, and clinical research have been created. The strengthening of partnerships between African institutions and European and American research institutions, cancer associations, funding agencies, and nongovernmental organizations is another of

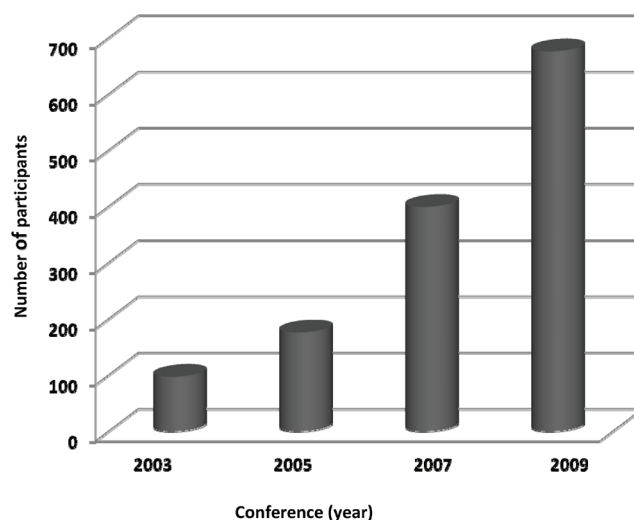


FIGURE 1 Increase in number of African Organization for Research and Training in Cancer conference participants. The number of participants increased steadily from 2003 to 2009.



TABLE 1 Number of participants in the African Organization for Research and Training in Cancer meetings, by country

Country	2003	2005	2007	2009
Algeria	0	1	4	2
Anglophone West Africa	0	0	0	2
Australia	0	0	2	0
Austria	0	2	1	1
Belgium	1	2	2	6
Botswana	0	0	2	5
Burkina Faso	0	1	1	3
Cameroon	5	15	11	14
Canada	2	2	3	9
Congo	1	6	3	4
Democratic Republic of Congo	1	6	3	6
East Africa	0	0	0	1
Egypt	1	4	10	7
Eritrea	0	0	0	1
Ethiopia	0	0	0	3
France	1	9	5	7
Gabon	0	1	1	2
Gambia	0	1	4	1
Germany	0	2	0	4
Ghana	15	9	11	20
Guinea	1	1	0	1
India	0	0	0	1
Italy	1	0	1	2
Ivory Coast	1	2	1	1
Kenya	2	2	19	34
Madagascar	0	0	1	1
Malawi	2	1	4	8
Mali	1	2	6	2
Mauritius	0	1	1	1
Morocco	0	1	2	4
Namibia	0	1	2	3
Netherlands	0	0	0	1
Nigeria	15	21	42	96
Unaffiliated	0	6	0	15
Norway	0	0	1	2
Qatar	0	0	0	1
Rwanda	0	1	0	4
Saudi Arabia	0	0	0	1
Senegal	2	11	9	18
Sierra Leone	0	0	0	1
South Africa	11	9	127	62
Spain	0	0	0	5
Sudan	0	2	5	6
Switzerland	1	0	4	10
Tanzania	2	3	12	127
Togo	0	1	1	3
Tunisia	0	1	2	3
Uganda	5	5	14	26
United Kingdom	1	2	8	13
United States	19	40	59	101
Virgin Islands	0	0	0	1
Zambia	0	0	2	6
Zimbabwe	3	0	4	7

AORTIC's aims. Through these partnerships, AORTIC intends to build research training capacity, to create regional centres of excellence, to establish clinical research, and to build community engagement and cancer awareness by governments and the public.

The AORTIC Council consists of volunteer scientists and clinicians with a professional interest in the prevention, treatment, and study of cancer in Africa. The AORTIC Web site (<http://www.aortic-africa.org>) and bilingual newsletters contribute to the sharing of information about cancer and provide links to other organizations and institutions, news, and resources.

The tasks facing AORTIC are large and growing. So too is AORTIC, with the realization by many that the challenge is a worthy one.

## 6. CONFLICT OF INTEREST DISCLOSURES

The authors have no financial conflicts of interest to declare.

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